



Black Carp

Mylopharyngodon piceus (Richardson, 1846)

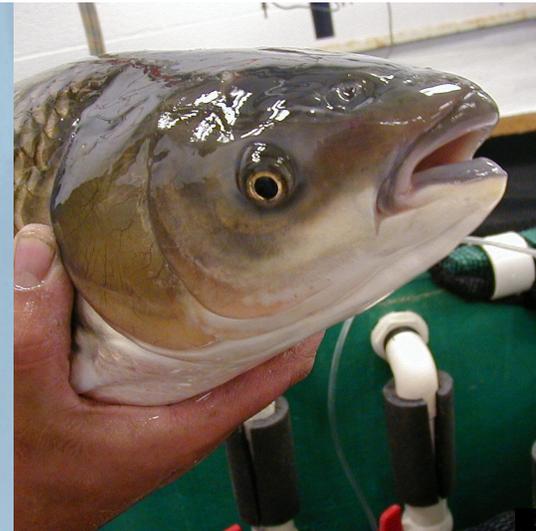
syn. *Barbus tonkinensis*, *Leucisculus fuscus/aethiops/dubius/piceus*, *Myloleuciscus atripinnis*, *Mylopharyngodon aethiops*

ALBERTA REGULATION:
FISHERIES ACT

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Overview:

Black carp is native to the Pacific drainages of Eastern Asia (Pearl river to Amur river) to far Eastern Russia.² Their native range occurs from about 22°N to about 51°N.⁴ Black carp were accidentally introduced to the U.S. as contaminants of imported grass carp stock in the early 1970s. Intentional introductions followed in the 1980's as a means of biological control of a parasite in fish culture ponds. They eat infected snails that carry a parasite; however, they are not susceptible to it. It is believed that the flooding of Mississippi fish farms facilitated the escape of black carp into the wild.⁴

The genus of their Latin name roughly translates to mill-throat-teeth³; they have teeth in their throat that are used to grind the shells of molluscs and resemble human molars.² The diet of both sub-adult and adult black carp

consists primarily of molluscs, which happens to be the primary impact they have on the environment. Native freshwater snails, clams and mussels are important water quality indicators and sources of food for native wildlife. Black carp can grind and consume any mollusc that fits in their mouths.⁴

Black carp triploids (three sets of chromosomes) have been created to prevent reproduction in areas where this fish has been used for biological control; however, this technique does not produce 100% triploid, infertile fish. Without laboratory tests, triploid fish cannot be distinguished from diploid fish. Additionally, black carp are a long-lived fish (average 15 years) and even a triploid incapable of reproduction will have significant impacts via the amount of molluscs it consumes over its lifetime.⁴

Black carp closely resemble grass carp, with the exception that black carp are darker in colour and their pharyngeal (throat) teeth are large.²

Black carp are hosts to parasites, flukes, and viral diseases that could possibly be transferred to other fish species. They also serve as the intermediate host for some human parasites.¹

As of January 1, 2016, the possession, sale, or transport of this species in Alberta is illegal under the Fisheries Act.

Habitat:

Freshwater large and fast moving rivers² and lowland lakes, preferably with clear water and high oxygen concentrations.³



Black Carp *(continued)*

Identification:

Black carp are blackish-brown in colour with blackish-grey fins. The body is elongated and somewhat compressed. The scales are very large and have dark edges, giving a cross-hatched or chain-link appearance. The head is pointed and the mouth arc-shaped and slightly downturned.¹

None of the fins have spines. The dorsal fin has 7-9 soft rays and the anal fin 8-10 soft rays.³

The main distinguishing characteristic is the throat teeth, which form a row of 4-5 large molar-like teeth on each of the two pharyngeal arches.³

Black carp generally grow more than 1.5 m long and weigh 15 kg, but can weigh up to 70 kg. Some individuals can live 15 years or more.⁴

Ecology:

Spawning occurs in their natural range when water temperatures are at least 18°C and water levels are rising.⁴ They

are broadcast spawners, meaning the females release eggs into flowing water. The eggs become semi-buoyant after fertilization² and drift downstream to lakes and smaller streams with very little current. Female black carp can produce 1-3 million eggs per year.⁴ Eggs hatch in 1-2 days² and fingerlings feed on zooplankton. Sexual maturity is reached by 6-11 years of age but females can reach as young as 3 years.⁴

Economic Impacts:

Black carp consumption of molluscs competes directly with native fish for food.⁴ The decline of native sportfish populations could have impacts on recreation and tourism.

Environmental Impacts:

Black carp consumption of molluscs would negatively impact aquatic communities by removing algae-grazing snails and native mussels, the smaller individuals and juvenile recruits being most vulnerable. Any

mollusc species which may already be endangered are particularly at risk.⁴ Both the structure and trophic relationships of aquatic communities would be disrupted.

Sociological Impacts:

The transformation of native aquatic communities results in the intrinsic loss of natural capital and enjoyment of natural areas.

Prevention:

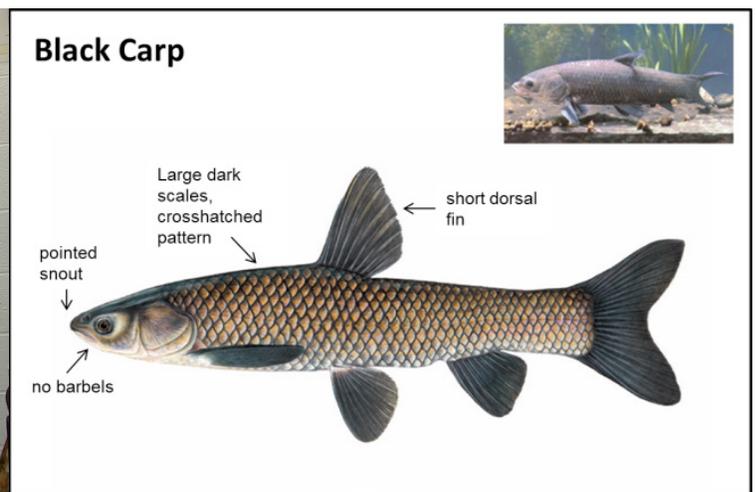
Learn how to identify black carp and how to prevent spread. Accidental and intentional releases are responsible for introduction and spread. Never empty your aquarium into natural water bodies.

Control:

Currently there are no established control options for black carp other than preventing introduction and harvesting by fishing. If caught, black carp should be killed and not released.



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REFERENCES:

1. Datasheet report for *Mylopharyngodon piceus* (black amur). Invasive Species Compendium. www.cabi.org/isc/datasheetreport?dsid=73511 Accessed: November 14, 2016.
2. Nico, L.G. and M. E. Neilson. 2016. *Mylopharyngodon piceus*. USGS Nonindigenous Aquatic Species Database, Gainesville, FL. <https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=573> Revision Date: 7/21/2016 Accessed: November 14, 2016.
3. *Mylopharyngodon piceus* (Richardson, 1846) Black carp. FishBase. www.fishbase.ca/summary/4602. Accessed: November 14, 2016.
4. Environmental Assessment for Listing Live Black Carp (*Mylopharyngodon piceus*) as Injurious Wildlife under the Lacey Act. USFWS/DEQ/BIS. 4401 Fairfax Drive, Rm. 322, Arlington, VA 22203. Accessed: November 14, 2016.